REMARKS

Favorable reconsideration of this application in light of the following discussion is respectfully requested.

Claims 1-3 and 5-20 are presently active in this case. The present Amendment amends Claims 1-3, 5-6, 8 and 14-20 and cancels Claim 4.

The outstanding Office Action objected to Claim 14 because of informalities. Further Claims 1-4, 8, 15 and 17-20 were rejected under 35 U.S.C. § 112, second paragraph, as indefinite. Claims 1-6 and 8-20 were rejected under 35 U.S.C. § 102(b) as anticipated by Nounin et al. (U.S. Patent No. 5,802,469, herein referred as "Nounin"). Claims 7, 13 and 14 were rejected under 35 U.S.C. § 103(a) as unpatentable over Nounin in view of "Official Notice."

Applicants respectfully request that the references cited in the Information Disclosure Statement filed November 23, 2004 be acknowledged as having been considered in the next Office Action.

In response to the rejection under 35 U.S.C. § 112, second paragraph, Claims 1-4, 8, and 17-20 are amended to correct the term "can be" to "is." Furthermore, Claim 15 is amended to recite "carrying out the protocol processing on the first sub-network," thereby correcting the informality. In view of amended Claims 1-4, 8, 15 and 17-20, it is believed that all pending claims are definite and no further rejection on that basis is anticipated. If, however, the Examiner disagrees, the Examiner is invited to telephone the undersigned who will be happy to work with the Examiner in a joint effort to derive mutually acceptable language.

In response to the rejection of Claims 1-6 and 8-20, Applicants respectfully traverse the rejection. However, in the spirit of moving prosecution forward for the present application and in order to clarify Applicants' invention, the independent claims have been

amended. Claim 1 is amended to recite "wherein the radio terminal is configured to receive a notification message indicating an existence or an address of the packet relay device on the first sub-network through the downlink radio network by using the first communication interface when the radio terminal enters a radio area of the radio base station, and is configured to transmit the request message after receiving the notification message at the first communication interface, and the radio terminal is further configured to process the response message received by the first or second communication interface."[1] Claim 3 is amended to recite "wherein the communication interface is also configured to transmit a response message corresponding to the request message obtained by the protocol processing in a form such as received by the radio terminal through the second sub-network."[2] Claim 8 is amended to recite "the response message being returned from the second sub-network through the bidirectional communication network."[3] Claim 15 is amended to recite "radio terminal having a first communication interface usable for reception only and a second communication interface usable for transmission and reception, a first sub-network to which the radio terminal is connected through a radio base station of a downlink radio network by using the first communication interface, and a second sub-network to which the radio terminal is connected through a bidirectional communication network by using the second communication interface, the second sub-network being connected with the first sub-network through a backbone network, the packet processing method comprising: receiving a notification message indicating an existence or an address of a packet relay device on the first sub-network through the downlink radio network by using the first communication interface when the radio terminal enters a radio area of the radio base station; transmitting a request message requesting a protocol processing with respect to the first sub-network from the radio

[1] Supported by Applicants' specification, for example from page 7, line 33 to page 8, line 14.
[2] Supported by Applicants' specification, for example at page 10, lines 11-23.
[3] Supported by Applicants' specification, for example at page 9, lines 1-5.

terminal to the packet relay device through the second sub-network; receiving the request message and carrying out the protocol processing on the first sub-network according to the request message on behalf of the radio terminal at the packet relay device."[4] Claim 17 is amended to recite "transmitting a response message corresponding to the request message obtained by the protocol processing in a form such as received by the radio terminal through the second sub-network."[5] Claim 18 and 20 are amended to recite "the response message being returned from the second sub-network through the bidirectional communication network,"[6] and Claim 19 is amended to recite "and a third computer readable program code for causing said computer to transmit a response message corresponding to the request message obtained by the protocol processing in a form such as received by the radio terminal through the second sub-network."[7]

In response to the rejection of Claims 1-6 and 8-20 under 35 U.S.C. § 102(b), Applicants respectfully request reconsideration of this rejection and traverse the rejection, as discussed next.

Briefly recapitulating, Applicants' invention, as recited in Claim 1, relates to a network system including a radio terminal, a first sub-network and a second sub-network. The radio terminal has a first communication interface usable for reception only and a second communication interface usable for transmission and reception. The radio terminal can be connected to the first sub-network through a radio base station of a downlink radio network by using the first communication interface. The radio terminal can also be connected to the second sub-network through a bidirectional communication network by using the second communication interface. The second sub-network is connected with the first sub-network through a backbone network. The first sub-network includes at least a packet relay device.

[4] Supported by Applicants' specification, for example from page 8, line 15 to page 9, line 5 and page 10, lines 5-11.
[5] Supported by Applicants' specification, for example at page 10, lines 11-23.
[6] Supported by Applicants' specification, for example at page 9, lines 1-5.
[7] Supported by Applicants' specification, for example at page 12, lines 12-18.

As explained in Applicants' specification at page 6, lines 3-30 with corresponding Fig. 2, Applicants' invention improves upon conventional network systems because when a radio terminal enters a radio area of the radio base station, the radio terminal receives a notification message indicating an existence or an address of the packet relay device on the first sub-network through the downlink radio network by using the first communication interface. Additionally, the radio terminal transmits a request message requesting a protocol processing with respect to the first sub-network from the radio terminal through the second sub-network. The packet relay device receives the request message through the second sub-network and the backbone network, and carries out the protocol processing on the first sub-network according to the request message on behalf of the radio terminal. The packet relay device returns a response message corresponding to the request message obtained by the protocol processing to the radio terminal through the downlink radio network or the bidirectional communication network. Finally, the radio terminal processes the response message received by the first or second communication interface.

In particularly, *when the radio terminal encapsulates the request message into an IP (Internet Protocol) packet destined to the address of the packet relay device* obtained according to the notification message and transmits the IP packet as a request message, as recited in Applicants' independent Claims 3, 8, 17-20, the packet relay device decapsulates the encapsulated IP packet so as to take out the request message, carries out the protocol processing, and transmits the response message corresponding to the request message so that the radio terminal receives it *through the second sub-network.*

Turning now to the applied prior art, the Nounin patent discloses that a terminal transmits the first physical address of the own station and a channel connection request to the first base station through a bidirectional channel[8] and that the first base station responds to

[8] See Nounin, for example, at column 9, lines 2-6 and in Fig. 4.

the request and then the terminal is connected with the first base station with an assigned channel through the bi-directional channel.[9] Further, Nounin teaches that the terminal transmits a message of request service to the first base station together with the second physical and logical addresses.[10] The first base station in Nounin transmits the second physical and logical addresses of the terminal and the request service message to the second base station through the network.[11] The service requested by the terminal is provided from the network, and is transmitted to the terminal through the unidirectional channel from the second base station.[12] In other words, Nounin merely discloses that the *terminal notifies the second base station of the second addresses regarding the second channel of the terminal via the first base station* (the first channel).

However, Nounin fails to teach or suggest "*the first and second sub-networks connected through the backbone network*" and "*the packet relay device*" including in the second sub-network, as recited in Applicants' claims. Additionally, Nounin fails to teach or suggest that "the radio terminal receive a notification message indicating an existence of an address of the packet relay device on the first sub-network through the downlink radio network" as recited in Applicants' independent Claims 1, 8, 15, 18 and 20. A terminal that notifies the second base station of the second addresses regarding the second channel of the terminal via the first base station, as taught by Nounin, ***is not*** a radio terminal receiving a notification message indicating an existence of an address of the packet relay device on the first sub-network through the downlink radio network.

Additionally, Nounin fails to teach or suggest that "the *packet relay device carries out the protocol processing on the first sub-network according to the request message* on behalf of the radio terminal" as recited in independent Claims 1, 3, 15, 17 and 19. Moreover,

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[9] See Nounin, for example, at column 8, lines 54-64 and in Fig. 4.
[10] See Nounin, for example, from column 8, line 65 to column 9, line 2 and in Fig. 4.
[11] See Nounin, for example, at column 9, lines 2-6 and in Fig. 4.
[12] See Nounin, for example, at column 9, lines 7-10 and in Fig. 4.

Nounin fails to teach or suggest that "the packet relay device returns to the radio terminal a result of the protocol processing as a response message" as recited in independent claims 1, 3, 15, 17 and 19.

In view of the above, all independent Claims 1, 3, 8, 15 and 17-20 are believed to be patentably distinct over the applied prior art, and therefore the rejection under 35 U.S.C. 102(b) is believed to be overcome. Since all the other claims depend upon one of independent Claims 1, 3, 8, 15 and 17-20, Applicants respectfully traverse, and request reconsideration of, the rejection based on the Nounin patent.[13]

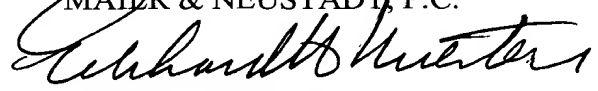
Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal Allowance. A Notice of Allowance for Claims 1-3 and 5-20 is earnestly solicited.

[13] See MPEP 2131: "A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference," (Citations omitted) (emphasis added). See also MPEP 2143.03: "All words in a claim must be considered in judging the patentability of that claim against the prior art."

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact Applicant's undersigned representative at the below listed telephone number.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.



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